UNITED STATES DISTRICT COURT DISTRICT OF MASSACHUSETTS

¿OISTE?; NEW ENGLAND STATE-AREA) CONFERENCE OF THE NAACP;)	
CONFERENCE OF THE NAACP;	
REV. TALBERT W. SWAN, II;	
NORMAN W. OLIVER; DARLENE)	
ANDERSON; GUMERSINDO GOMEZ;)	
FRANK BUNTIN; RAFAEL RODRIQUEZ;)	
and DIANA NURSE	Civil Action No. 05-30080-MAP
)	
Plaintiffs,	
)	
v.)	
)	
)	
CITY OF SPRINGFIELD and SPRINGFIELD)	
ELECTION COMMISSION)	
Defendants.	
)	

DEFENDANTS' AFFIDAVIT OF DIRECT TESTIMONY DANIEL MARRIER, GIS SYSTEMS ANALYST

I, Daniel Marrier, on oath, do hereby state as follows:

1) My name is Daniel Marrier and I work as a GIS Systems Analyst for the Office of Geographic and Environmental Information (MassGIS) within the Executive Office of Environmental Affairs for the Commonwealth of Massachusetts, located on 251 Causeway Street, Suite 500, Boston, Massachusetts. I received a Bachelor's Degree from Boston University in Planetary and Space Sciences in 1995 and a Master's Degree from Boston University in Environmental Remote Sensing and Geographic Information Systems in 1999. I have worked at MassGIS for seven years. Prior to my current employment, I worked concurrently at the Department of Environmental Protection and for the U.S. Census Bureau's Boston Regional Office. I began my tenure at MassGIS as a GIS Technician and then was promoted to a GIS Analyst Type 1. Since July 2005, I have been a GIS Analyst Type 3 and, as such, "process, analyze, and disseminate geographic data." The only previous work that I have done related to elections or voting is to "track and keep up to date the [state] representatives who get elected every year." There are two different datalayers; one for the State Senate and one for the State House of Representatives. Updating involves making changes to the Representative and Senate district boundaries, and updating with the name of newly elected representatives and "associated information."

- 2) I was asked by my supervisor, Christian Jacqz, to assist the City of Springfield in analyzing redistricting maps proposed by Plaintiffs in Arise for Social Justice v. City of Springfield, Civil Action No. 05-30080-MAP, and to attempt to create additional redistricting plans that met criteria that were provided to me. My understanding is that the assistance of MassGIS was sought based upon its expertise and experience in using GIS and mapping and the lack of comparable capabilities in the City's Planning Department. This work was authorized by Mr. Thomas Trimarco, Executive Office of Administration and Finance, and was requested by members of the City's Finance Control Board. I was asked to do the following:
- a) Verify the accuracy of the data provide by the Plaintiffs' nine single-member district plans and six single-member district plans and analyze these plans in order to determine whether it would be possible to make some changes to any of the plans such that those changes would increase the minority share of the population in certain districts
- b) Determine how many precincts would be split by the Plaintiffs' proposed nine single-member district plan and the six single-member district plan; and how many separate ballot combinations would be necessitated if the City were required to implement a nine single-member district plan for election of members to the City Council and a six single-member district plan for the election of members to the School Committee in the same election.
- c) Explore some alternative districting plans and/or configurations of minority-majority districts
- d) Create a nine single-member district plan that splits a minimum number of precincts and that includes at least one district in which African American persons constitute at least 55 percent of the voting age population and at least one district in which Hispanic persons constitute at least 55 percent of the voting age population.
- 3) I am not testifying as an expert with regard to electoral opportunities or even an expert as to GIS or the creation of districting plans. My testimony relates only to what I was able to do in response to certain directions or to comply with certain criteria. I do not have any previous voting rights experience, do not have the education, experience, or expertise to assess electoral opportunities for minority voters, and was not provided with any racial bloc voting analysis from which to make an assessment of electoral opportunities

Demographics of the City of Springfield

- 4) According to the 2000 Census, 19.6 percent of the total population of the City of Springfield identified themselves as Black/African-American (alone); 27.2 percent identified themselves as Hispanic/Latino (regardless of race); and 4.3 percent identified themselves as some other race or as two or more races.
- 5) According to the 2000 Census, 18.1 percent of the voting age population of the City of Springfield identified themselves as Black/African-American (alone), and 21.8 percent identified themselves as Hispanic/Latino (regardless of race), and 4.0 percent identified themselves as some other race or two or more races.
- 6) According to the 2000 Census, the demographics of the City's eight wards are as follows: Ward **TPOP** % Black % Hispanic VAP % Black % Hispanic **TPOP TPOP** VAP VAP

1	19,123	11.5	68.4	12,866	12.4	60.8
2	19,214	08.3	26.0	14,139	06.9	20.8
3	18,784	20.1	44.0	12,414	19.3	37.4
4	19,166	53.7	25.0	12,914	53.1	19.6
5	18,967	25.7	11.8	13,764	24.1	09.1
6	19,039	09.6	16.0	14,033	07.8	11.9
7	18,960	09.3	06.4	14,638	07.6	04.8
8	18,824	18.7	19.9	13,285	16.5	14.7
Total	152,082	19.6	27.2	108,055	18.1	21.8

7) According to the 2000 Census, 66.8 percent of the Hispanic voting age population lives outside of Ward 1 and 47.0 percent live outside of Wards 1 and 3 and 64.9 percent of the African American voting age population lives outside of Ward 4. So while Ward 1, 3 and 4 are comprised of a significant concentration of minority persons, a greater number of minority persons live in various neighborhoods/wards/precincts throughout the City. The more dispersed a minority group is in a City, for example, the more difficult it is to construct districts in which a significant majority are comprised of members of that group.

Plaintiffs' Proposed Nine Single-Member District Plan

8) I received from Plaintiffs the following nine single-member district plan¹ for the election of members to the City Council

District	White VAP %	Black VAP %	Hispanic VAP %	Deviation %
1	29.2	13.5	54.0	-2.1
2	24.8	18.1	54.1	-2.0
3	16.0	58.0	21.2	-4.2
4	41.1	38.5	16.4	-4.5
5	71.2	06.8	19.1	+2.1
6	73.5	12.1	11.4	+3.9
7	83.1	09.1	05.1	+0.5
8	84.0	06.5	05.6	+2.7
9	63.6	10.6	17.9	+3.8
Total	56.2	18.9	21.8	8.4

The deviation from the ideal in each district was less than ± 5 percent.

9) Plaintiffs did not assign mixed-race voting age persons who claim "membership" in any of the above three categories: white, Black, and Hispanic. I did include some "mixed race" voting age persons in the above categories. I made these assignments based entirely upon my wish to minimize the exclusion of voting age persons who identified themselves as members of two or more racial groups. I noticed after I made these determinations and assignments that Dr. Harmon, in his report, notes there is precedence for this within the US Department of Justice.

¹ Plaintiffs have proposed two nine single-member district plans that vary little from one another. The above refers to the plan submitted by Dr. Harmon in his report.

The "Hispanic" category includes voting age persons of every race who identify themselves as "Hispanic." As the below chart indicates, the addition of these "mixed-race" voting age persons resulted in only minimal differences in the computations of the proportion of the population in each of the districts who were non-Hispanic white, non-Hispanic African American, and Hispanic (regardless of race)

District	White VAP %	Black VAP %	Hispanic VAP %
1	30.2	13.9	54.0
2	25.6	18.7	54.1
3	16.5	60.0	21.2
4	41.7	39.5	16.4
5	72.1	07.0	19.1
6	74.3	12.5	11.4
7	83.6	09.5	05.1
8	84.6	06.8	05.6
9	64.4	11.2	17.9

- 10) I was not able to create a nine single-member districting plan or make modifications to the Plaintiffs' nine single-member district plan such that there would be two majority Hispanic districts, in which more than 58 percent of the voting age population was Hispanic and there would be two districts in which African American persons constituted at least 54 percent of the voting age majority (according to the 2000 Census). I was not able to identify any contiguous precincts that could be included in Districts 1 and 2 in Plaintiffs' nine single-member district plan that would increase the Hispanic voting age share of the population in either district. Likewise, I could identify no contiguous precincts that could be included in District 4 in Plaintiffs' nine single-member district plan that would increase the African American voting age share of the population in that district without decreasing the proportion of African American voting age persons in District 3.
- 11) I further was unable to increase in the proportion African American and Hispanic voting age persons by creating a two-member African American majority district and a two-member Hispanic majority district in a plan that elected nine members to the City Council. I was instructed to disregard precinct boundaries in creating a plan that maximized the proportion of African Americans and Hispanic voting age persons in double-member districts. It was not my understanding that the instruction to disregard precinct boundaries was based upon a view that it was not important to the City to minimize the number of precincts that were split; rather I understood the directions to explore what a plan would look like and what the demographics would be in such a plan if splitting precincts were not an issue. In the nine single-member district plan that I created, Hispanic persons constituted 53.5 percent of the voting age population (according to the 2000 Census) in a district that would elect two candidates in a nine-member City Council. In the nine district plan that I created, African American persons would constitute only 51.6 percent of the voting age population (according to the 2000 Census) in a district that would elect two candidates in a nine-member City Council. In the nine district plan, in the double-member African American-majority district, African Americans constituted only 51.6 percent of the voting age population and the district was extremely oddly shaped – the result of a

predominate racial motive that subordinated other of Springfield's traditional districting principles with the exception of a contiguity requirement and \pm 5 percent standard deviation.

- 12) It appears that Plaintiffs' proposed nine single-member district plan was created by including in Districts 1 and 2, every Hispanic majority precinct as could reasonably be included in either of these districts and including in Districts 3 and 4, every African American majority precinct as could reasonably be included in either of these districts
- 13) It does not appear that the number of precincts split among and between districts was minimized, based upon the fact that Plaintiffs' proposed nine single-member districting plan splits 27 precincts between two districts and splits an additional eight precincts among three districts.
- 14) It does not appear that Plaintiffs' proposed nine single-member district was drawn with the goal of keeping neighborhood populations together as much as possible based upon the following:
- a) District 1 in Plaintiffs' proposed nine single-member district plan includes all or parts of the following six neighborhoods: Brightwood, the South End, Memorial Square, Metro Center, Six Corners, and Forest Park.
- b) District 2 in Plaintiffs' proposed nine single-member district plan includes all or part of the following six neighborhoods: Memorial Square, Liberty Heights, Metro Center, McKnight, Six Corners, and Old Hill.
- c) District 3 in Plaintiffs' proposed nine single-member district plan includes all or part of the following seven neighborhoods: McKnight, Bay, Upper Hill, Old Hill, Six Corners, and Forest Park and East Forest Park.
- d) District 4 in Plaintiffs' proposed nine single-member district plan includes all or part of the following seven neighborhoods: Pine Point, Boston Road, Upper Hill, Bay, McKnight, East Forest Park, and Sixteen Acres.
- e) District 5 in Plaintiffs' proposed nine single-member district plan includes part of the following four neighborhoods: Liberty Heights, McKnight, Bay, and East Springfield f) District 6 in Plaintiffs' proposed nine single-member district plan includes all or part of the following five neighborhoods: Indian Orchard, East Springfield, Boston Road, Pine Point, and Sixteen Acres.
- g) District 7 in Plaintiffs' proposed nine single-member district plan includes part of the following two neighborhoods: Sixteen Acres and East Forest Park
- h) District 8 in Plaintiffs' proposed nine single-member district plan includes all or part of the following five neighborhoods: East Forest Park, Upper Hill, Sixteen Acres, Old Hill, and Forest Park
- i) District 9 in Plaintiffs' proposed nine single-member district plan includes part of the following three neighborhoods: Forest Park, South End, and Six Corners
- 15) Districts in Plaintiffs' proposed nine-single member district plan in which a majority of the voting age population was either African American or Hispanic (according to the 2000 Census), split more neighborhoods (between six and seven), than the districts in which white persons constitute a majority of the voting age population (between five and two)

- 16) Assuming that an elected official represents all of the neighborhoods/people/communities included in his district, under Plaintiffs' proposed nine single-member district plan, the Brightwood neighborhood would be represented by one of the nine members of the City Council (11.1 percent); the Indian Orchard neighborhood would be represented only by one of the nine members of the City Council (11.1 percent); the Liberty Heights neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the Memorial Square neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the Boston Road neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the East Springfield neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the Pine Point neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the Metro Center neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the South End neighborhood would be represented by two of the nine members of the City Council (22.2 percent); the Bay neighborhood would be represented by three of the nine members of the City Council (33.3 percent); the Old Hill neighborhood would be represented by three of the nine members of the City Council (33.3 percent); the Upper Hill neighborhood would be represented by three of the nine members of the City Council (33.3 percent); the McKnight neighborhood would be represented by four of the nine members of the City Council (44.4 percent); the Forest Park neighborhood would be represented by four of the nine members of the City Council (44.4 percent); the Six Corners neighborhood would be represented by four of the nine members of the City Council (44.4 percent); the East Forest Park neighborhood would be represented by four of the nine members of the City Council (44.4 percent); the Sixteen Acres neighborhood would be represented by four of the nine members of the City Council (44.4 percent)
- 17) Plaintiffs' proposed nine single-member district does not appear to minimize the splitting of wards among or between districts. Although it would be necessary for one or two of eight wards to be divided in order to create a nine single-member district plan; wards are split as follows in Plaintiffs' nine single-member district plan: Wards 1 and 8 are divided between two districts; Wards 2, 6, and 7 are divided among three districts; Ward 3 among four districts; and Wards 4 and 5 are divided among five districts in Plaintiffs' nine single-member district plan.
- a) District 1 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 1. Ward 3, and Ward 6
- b) District 2 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 1, Ward 2, Ward 3, and Ward 4.
- c) District 3 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 3, Ward 4, Ward 5 and Ward 7.
- d) District 4 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 4, Wards 5, and Ward 8.
- e) District 5 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 2
- f) District 6 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 2, Ward 5 and Ward 8.

- g) District 7 in Plaintiffs' proposed nine single-member district plan includes parts of Ward 5 and Ward 7.
- h) District 8 in Plaintiffs' proposed nine single-member district plan includes part of Ward 4, Ward 5, Ward 6, and Ward 7.
- i) District 9 in Plaintiffs' proposed nine single-member district plan includes part of Ward 3 and Ward 6.
- 18) Accordingly, two city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 1; two city council districts in Plaintiffs' proposed nine singlemember district plan include parts of Ward 8; three city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 2; three city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 6; three city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 7; four city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 3; five city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 4; and five city council districts in Plaintiffs' proposed nine single-member district plan include parts of Ward 4.
- 19) I was provided with a list (and addresses) of incumbent members of the City Council, former candidates, and named-Plaintiffs and asked to identify their residence (and district assignment) on Plaintiffs' proposed nine single-member district plan. I do not know anything about these individuals other than the information that I was provided and did not verify the accuracy of information, i.e., the residence of the individual or his respective status as a candidate, incumbent or named Plaintiff. When I located these individuals based upon address in Plaintiffs' nine single-member district plan (June), I found the following:
- a) Incumbent, Bruce Stebbins, as well as named Plaintiff Gumersindo Gomez, reside in District 1 in Plaintiffs' proposed nine single-member district plan
- b) No incumbents or named Plaintiffs or recent candidates reside in District 2 in Plaintiffs' proposed nine single-member district plan
- c) Although no City Council incumbent resides in District 3, named Plaintiffs Frank Buntin, named Plaintiff Diana Nurse, and Norman Oliver reside in District 3 in Plaintiffs' proposed nine single-member district plan.
- d) City Council incumbent Bud Williams and City Council incumbent Carol Lewis-Caulton, as well as candidate, Rafael Nazario, reside in District 4 in Plaintiffs' proposed nine single-member district plan, in which 39.5 percent of the voting age population was African American and 41.7 percent of the voting age population was white, according to the 2000 Census
- e) City Council incumbent Rosemarie Mazza-Mariarty, as well as City Council candidates Luis Garcia, Alex Cortes, and Hamilton Wray reside in District 5 in Plaintiffs' proposed nine singlemember district plan.
- f) Incumbent Jose Tosado and named Plaintiff Benjamin Swan reside in District 6 (in which 72.1 percent of the voting age population was white and 19.1 percent of the voting age population was Hispanic) in Plaintiffs' proposed nine single-member district plan.
- g) City Council incumbent William Foley and candidate Clodo Concepcion reside in District 7 of Plaintiffs' proposed nine single-member district plan

- h) City Council incumbent Timothy Rooke and James Ferrara reside in District 8 of Plaintiffs' proposed nine single-member district plan
- i) Two City Council incumbents, Kateri Walsh and Domenic Sarno reside in District 9 in Plaintiffs' proposed nine single-member district plan.
- 20) I was also asked to create two or three Hispanic majority districts and two African American majority districts in a 13 single-member district plan. Again, I was told to maximize the minority proportion of the voting age population in the districts by using census blocks as the "building blocks" of the plan. I was not told that the City was considering changing the size of their City Council. I did not understand this assignment to mean that minimizing the division of precincts was not important, but rather the City wanted to see what a "maximized" plan looked like. I only created the minority districts. In this 13 single-member district plan, I was able to create one district in which African Americans constituted 60.5 percent of the voting age population and a second district in which African Americans constituted 54.9 percent of the voting age population. I was further able to create three districts: one in which Hispanic persons constituted 51.7 percent of the voting age population; a second in which Hispanics constituted 51.1 percent of the voting age population; and third in which Hispanic persons constituted 54.5 percent of the voting age population. I do not believe that there would be any way to appreciably increase the proportion of African Americans in either of the two African American majority districts or to increase the proportion of Hispanic persons in any of the three Hispanic majority districts without violating the ± 5 percent deviation requirement in district populations.
- 21) I was most recently asked to create a nine single-member district plan that splits only one or few -- precinct, and that meets a ±5 percent deviation "requirement." Demographics of the plan ("Defendants' plan") that I created are as follows:

District	White VAP %	Black VAP %	Hispanic VAP %	Deviation %
1	23.2	10.4	64.9	-1.4
2	69.2	06.9	21.9	-0.4
3	33.9	22.3	40.9	-2.2
4	14.6	61.6	22.1	-0.2
5	50.3	33.4	14.0	-1.3
6	68.9	10.0	15.5	-1.8
7	80.2	09.1	07.4	+4.9
8	82.7	10.1	05.4	+4.9
9	73.8	11.5	13.0	-2.6
Total	56.2	18.9	21.8	7.1

Deviation from the ideal in each district was less than ± 5 percent

22) Defendants' plan was created by combining the following precincts: District 1 is comprised of Precincts 1A, 1B, 1C, 1D, 1E, 1F, and 1H; District 2 is comprised of Precincts 2A, 2B, 2C, 2D, 2E, 2F, and 2G; District 3 is comprised of Precincts 1G, 3A, 3B, 3C, 3D, 3E, and 3F: District 4 is comprised of Precincts 4A, 4B, 4C, 4D, 4E, 4G, and 4H; District 5 is comprised of Precincts 5A, 5B, 5C, 5E, 5F, 8C, and 8H; District 6 is comprised of Precincts 3G, 3H, 6A, 6B,

6C, 6D, and 6F; District 7 is comprised of Precincts 6E, 6G, 6H, 7A, 7B, 7C, 4F, and part of 7D; District 8 is comprised of Precincts 5D, 5G, 5H, 7E, 7F, 7G, 7H, and part of 7D; District 9 is comprised of Precincts 2H, 8A, 8B, 8D, 8E, 8F, and 8G. Ward 1, Precinct G was reassigned from District 1 to District 3. Incumbent Bruce Stebbins resides in Precinct 1G, in which white persons constitute 33.3 percent of the voting age population and Hispanic persons constitute 38.1 percent of the voting age population (according to the 2000 Census).²

Plaintiffs' Six Single-Member District Plans for the School Committee

23) I received two six single-member district plans from Plaintiffs – one of which split one precinct (A) and the other used census blocks as redistricting building blocks and therefore many precincts were split (B). Demographics for the six single-member district plan for the election of members to the School Committee (that split precincts) are provided as follows:

District	White VAP %	Black VAP %	Hispanic VAP %	Deviation %
1	21.8	14.6	61.2	-2.7
2	21.1	55.1	19.6	-3.3
3	71.8	07.6	17.9	+4.2
4	73.0	15.9	08.0	+0.04
5	75.3	09.6	10.0	+3.9
6	62.4	11.2	21.0	-2.1
Total	56.2	18.9	21.8	7.2

24) Using my assignment of "mixed race" persons, see, supra at ¶5, the demographics of the Plaintiffs' six single-member district plan (B) that split many more than one precinct was as follows:

District	White VAP %	Black VAP %	Hispanic VAP %
1	22.5	15.1	61.2
2	21.4	56.8	19.6
3	72.7	7.8	17.9
4	73.6	16.5	8.0
5	76.1	10.1	9.8
6	63.3	11.6	21.0

As the above chart indicates, the addition of these "mixed-race" voting age persons resulted in only minimal differences in the computations of the proportion of the population in each of the districts who were non-Hispanic white, non-Hispanic African American, and Hispanic (regardless of race)

25) I was not able to create a districting plan or make modifications to the Plaintiffs' six singlemember district plan (B) such that there would be two voting age majority Hispanic districts and

² The source of these proportions is MassVote and are "single-race" and do not reflect the multiple race paradigm that I used in evaluating the above plans.

two districts in which African Americans constituted a voting age majority (according to the 2000 Census).

- 26) It appears that Plaintiffs' proposed six single-member district plan (B) was created by including in District 1 every Hispanic majority precinct as could reasonably be included in this district and including in District 2, every African American majority precinct as could reasonably be included in that district.
- 27) It does not appear the number of precincts that were split among and between districts was minimized, based upon the fact that Plaintiffs' proposed six single-member districting plan (B) splits 25 precincts between two districts and an additional five precincts among three districts
- 28) It does not appear that Plaintiffs' proposed six single-member districting plan (B) keeps neighborhood populations "together" as much as possible based upon the following:
- a) District 1 in Plaintiffs' proposed six single-member district plan B includes all or parts of the following eight neighborhoods: Brightwood, the South End, Memorial Square, Metro Center, Six Corners, McKnight, Liberty Heights, and Old Hill
- b) District 2 in Plaintiffs' proposed six single-member district plan B includes all or part of the following eight neighborhoods: Old Hill, McKnight, Upper Hill, Sixteen Acres, East Forest Park, Pine Point, Six Corners, and Bay
- c) District 3 in Plaintiffs' proposed six single-member district plan B includes all or part of the following five neighborhoods: Liberty Heights, McKnight, Bay, East Springfield, and Indian Orchard
- d) District 4 in Plaintiffs' proposed six single-member district plan B includes all or part of the following four neighborhoods: Sixteen Acres, Boston Road, Indian Orchard and Pine Point
- e) District 5 in Plaintiffs' proposed six single-member district plan B includes part of the following six neighborhoods: Forest Park, East Forest Park, Upper Hill, Old Hill, Six Corners, and Sixteen Acres
- f) District 6 in Plaintiffs' proposed six single-member district plan B includes all or part of the following five neighborhoods: Forest Park, South End, Metro Center, Memorial Square, and Six Corners
- 29) Districts in which a majority of the voting age population was either African American or Hispanic (according to the 2000 Census), split more neighborhoods (eight), than the districts in which white persons constituted a majority of the voting age population (four to six) in Plaintiffs' six single-member district plan (B)
- 30) Assuming that an elected official represents all of the neighborhoods/people/communities included in his district, under Plaintiffs' proposed six single-member district plan, the Boston Road neighborhood would be represented by only one of the six members of the School Committee (16.6 percent); the East Springfield neighborhood would be represented by only one of the six members of the School Committee (16.6 percent); the Liberty Heights neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Memorial Square neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Bay neighborhood would be represented by two of the six

members of the School Committee (33.3 percent); the East Forest Park neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Forest Park neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Indian Orchard neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Pine Point neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the South End neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Upper Hill neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Metro Center neighborhood would be represented by two of the six members of the School Committee (33.3 percent); the Old Hill neighborhood would be represented by three of the six members of the School Committee (50.0 percent); the McKnight neighborhood would be represented by three of the six members of the School Committee (50.0 percent); the Sixteen Acres neighborhood would be represented by three of the six members of the School Committee (50.0 percent); and the Six Corners neighborhood would be represented by four of the six members of the School Committee (50.0 percent); and the Six Corners neighborhood would be represented by four of the six members of the School Committee (50.7 percent)

- 31) It does not appear that Plaintiffs' proposed six single-member district was drawn to minimize the number of wards that were split among or between districts. I recognize that several of eight wards would have to be divided in order to create a six single-member district plan; nevertheless, in Plaintiffs' six single-member district plan (B), Wards 1, 2, and 6 are divided between two School Committee districts; Wards 5, 7, and 8; are divided among three School Committee districts. Ward 3 is divided among four School Committee districts and Ward 4 is divided among five districts. Accordingly, the following represents the ward assignments in Plaintiffs' proposed six single-member district plan (B):
- a) District 1 in Plaintiffs' proposed six single-member district plan (B) includes parts of Wards 1, 2, 3, and 4.
- b) District 2 in Plaintiffs' proposed six single-member district plan (B) includes parts of Wards 3, 4, 5, 7, and 8.
- c) District 3 in Plaintiffs' proposed six single-member district plan (B) includes parts of Wards 2, 4, and 8.
- d) District 4 in Plaintiffs' proposed six single-member district plan (B) includes part of Wards 4, 5, 7, and 8.
- e) District 5 in Plaintiffs' proposed six single-member district plan (B) includes part of Wards 3, 4, 5, 6, and 7
- f) District 6 in Plaintiffs' proposed six single-member district plan (B) includes part of Wards 1, 3, and 6.
- 32) Accordingly, two school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 1; two school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 2; two school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 6; three school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 5; three school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 7; three school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 8; four school committee districts in Plaintiffs'

proposed six single-member district plan (B) include parts of Ward 3; five school committee districts in Plaintiffs' proposed six single-member district plan (B) include parts of Ward 5.

- 33) Based upon the information provided to me about the residence of certain candidates, incumbents, and named-Plaintiffs, see, supra at ¶19, Plaintiffs' six single-member district plan (B) assigns incumbent Marjorie Hurst, candidate Victor Davilia and former incumbent Candace Lopes to District 2. Candidate Luis Garcia and former incumbent Carmen Rosa³ is assigned to District 3 and incumbents Thomas Ashe, Antonette Pepe, and Michael P. Rodgers to District 5 Plaintiffs' six single-member district plan (B). Incumbents Kenneth Shea, Jennifer Murphy, and candidate Orlando Santiago are assigned to District 6 Plaintiffs' six single-member district plan (B).
- 34) I was further asked to compute the number of City Council district School Committee district ballot combinations that would be necessitated by implementing Plaintiffs' six and nine single-member district plan at the same time. I concluded that the following 25 different ballot combinations would result from implementing both plans in one election: CC1—SC1; CC1—SC6; CC2—SC1; CC2—SC2; CC2—SC3; CC2—SC6; CC3—SC1; CC3—SC2; CC3—SC3; CC3—SC5; CC4—SC2; CC4—SC3; CC4—SC5; CC5—SC3; CC6—SC2; CC6—SC3; CC6—SC2; CC6—SC3; CC6—SC4; CC7—SC4, CC7—SC5; CC8—SC5; CC8—SC5; CC8—SC6; CC9--SC5; and CC9—SC6.
- 35) I was also provided with a second (A) proposed an alternative six single-member district plan that split only one precinct. Demographics (as provided by Dr. Harmon) of the Plaintiffs' proposed six single-member district plan A are as follows:

District	White VAP %	Black VAP %	Hispanic VAP %	Deviation %
1	31.3	12.7	53.1	+3.3
2	22.0	53.3	20.4	-2.6
3	48.3	17.2	27.6	+1.4
4	73.2	06.2	16.7	-4.6
5	76.1	13.8	07.4	-1.7
6	79.7	08.9	07.5	+4.2
Total	56.2	18.9	21.8	8.8

The deviation from the ideal in each district was less than ± 5 percent.

36) Using my assignment of "mixed race" persons, see, supra at ¶5, the demographics of the Plaintiffs' six single-member district plan (A) that splits only one precinct:

District	White VAP %	Black VAP %	Hispanic VAP %
1	32.1	13.1	53.1
2	22.4	55.0	20.4

³ I was provided Ms. Rosa's address only recently. The address that I was provided is as follows: 140 Atwater Terrace (Precinct 2B), Springfield, Massachusetts.

3	49.2	18.0	27.6
4	74.2	7.4	16.7
5	76.6	14.3	7.4
6	80.4	9.1	7.5

As the above chart indicates, the addition of these "mixed-race" voting age persons resulted in only minimal differences in the computations of the proportion of the population in each of the districts who were non-Hispanic white, non-Hispanic African American, and Hispanic (regardless of race)

- 37) In Plaintiffs' proposed six single-member district plan (A), Precinct 8H is split among Districts 2, 4, and 5. District 1 is comprised of Precincts 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 2A, 2B, and 3A. District 2 is comprised of Precincts 4A, 4B, 4C, 4D, 4E, 4G, 4H, 5A, 5B, 8C, and a portion of 8H. District 3 is comprised of Precincts 3B, 3C, 3D, 3E, 3F, 3G, 3H, 4F, 6A, 6E, and 7A. District 4 is comprised of Precincts 2C, 2D, 2E, 2F, 2G, 2H, 8A, 8D, 8E, 8F, and part of 8H. District 5 is comprised of Precincts 5C, 5D, 5E, 5G, 5H, 7F, 7G, 7H, 8B, 8G, and part of 8H. District 6 is comprised of Precincts 5F, 6B, 6C, 6D, 6F, 6G, 6H, 7B, 7C, 7D, and 7E.
- 38) I was not able to make modifications to the Plaintiffs' six single-member district plan (A) such that there would be two majority Hispanic districts, in which more than 54 percent of the voting age population was Hispanic and there would be two districts in which African American constituted a voting age majority (according to the 2000 Census). I was not able to identify any contiguous precincts that could be included in District 1 in Plaintiffs' six single-member district plan (A) that would increase the

Hispanic voting age share of the population in that district. It would, however, be possible to "switch" precincts to increase the Hispanic proportion of the voting age population slightly, e.g., if Precincts 3-B (50.5 percent of the voting age population was Hispanic, according to the 2000 Census) and 3-A (43.7 percent of the voting age population was Hispanic according to the 2000 Census) were switched between their two respective districts, District 1 (which would then include precinct 3B instead of 3A) have a slightly greater proportion of the Hispanic voting age person, since both precincts have nearly the same total voting age population. Likewise, I could identify no contiguous precincts that could be included in District 2 in Plaintiffs' six single-member district plan (A) that would increase the African American voting age share of the population in that district.

Signed under the penalties of perjury this 5th day of February, 2007.

Doniel B. Mausier
Daniel Marrier